

Figure 1: Sequence listing of the OAS1 gene .

LOCUS NM_016816 1590 bp mRNA linear PRI
 22-FEB-2001
 DEFINITION Homo sapiens 2',5'-oligoadenylate synthetase 1 (40-46 kD)
 (OAS1),
 transcript variant E18, mRNA.
 ACCESSION NM_016816
 VERSION NM_016816.1 GI:8051620
 KEYWORDS .
 SOURCE human.
 ORGANISM Homo sapiens
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata;
 Euteleostomi;
 Mammalia; Eutheria; Primates; Catarrhini; Hominidae;
 Homo.
 REFERENCE 1 (bases 1 to 1590)
 AUTHORS Merlin,G., Chebath,J., Benech,P., Metz,R. and Revel,M.
 TITLE Molecular cloning and sequence of partial cDNA for
 interferon-induced (2'-5')oligo(A) synthetase mRNA from
 human cells
 JOURNAL Proc. Natl. Acad. Sci. U.S.A. 80 (16), 4904-4908 (1983)
 MEDLINE 83273721
 PUBMED 6348777
 REFERENCE 2 (bases 1 to 1590)
 AUTHORS Saunders,M.E., Gewert,D.R., Tugwell,M.E., McMahon,M. and
 Williams,B.R.
 TITLE Human 2-5A synthetase: characterization of a novel cDNA
 and
 corresponding gene structure
 JOURNAL EMBO J. 4 (7), 1761-1768 (1985)
 MEDLINE 85284966
 PUBMED 2411547
 REFERENCE 3 (bases 1 to 1590)
 AUTHORS Benech,P., Mory,Y., Revel,M. and Chebath,J.
 TITLE Structure of two forms of the interferon-induced (2'-5')
 oligo A
 synthetase of human cells based on cDNAs and gene
 sequences
 JOURNAL EMBO J. 4 (9), 2249-2256 (1985)
 MEDLINE 86081732
 PUBMED 2416561
 REFERENCE 4 (bases 1 to 1590)
 AUTHORS Wathelet,M., Moutschen,S., Cravador,A., DeWit,L.,
 Defilippi,P.,
 Huez,G. and Content,J.
 TITLE Full-length sequence and expression of the 42 kDa 2-5A
 synthetase
 induced by human interferon
 JOURNAL FEBS Lett. 196 (1), 113-120 (1986)
 MEDLINE 86108911
 PUBMED 3753689
 REFERENCE 5 (bases 1 to 1590)
 AUTHORS Shiojiri,S., Fukunaga,R., Ichii,Y. and Sokawa,Y.
 TITLE Structure and expression of a cloned cDNA for human
 (2'-5')oligoadenylate synthetase
 JOURNAL J. Biochem. 99 (5), 1455-1464 (1986)
 MEDLINE 86223945
 PUBMED 3754863

Figure 1:Page 2

- REFERENCE 6 (bases 1 to 1590)
AUTHORS Williams,B.R., Saunders,M.E. and Willard,H.F.
TITLE Interferon-regulated human 2-5A synthetase gene maps to
chromosome 12
JOURNAL Somat. Cell Mol. Genet. 12 (4), 403-408 (1986)
MEDLINE 86289724
PUBMED 2426799
- REFERENCE 7 (bases 1 to 1590)
AUTHORS Benech,P., Vigneron,M., Peretz,D., Revel,M. and
Chebath,J.
TITLE Interferon-responsive regulatory elements in the promoter
of the human 2',5'-oligo(A) synthetase gene
JOURNAL Mol. Cell. Biol. 7 (12), 4498-4504 (1987)
MEDLINE 88142842
PUBMED 2830497
- REFERENCE 8 (bases 1 to 1590)
AUTHORS Wathelet,M.G., Clauss,I.M., Nols,C.B., Content,J. and
Huez,G.A.
TITLE New inducers revealed by the promoter sequence analysis
of two interféron-activated human genes
JOURNAL Eur. J. Biochem. 169 (2), 313-321 (1987)
MEDLINE 88082760
PUBMED 3121313
- REFERENCE 9 (bases 1 to 1590)
AUTHORS Rutherford,M.N., Hannigan,G.E. and Williams,B.R.
TITLE Interferon-induced binding of nuclear factors to promoter
elements of the 2-5A synthetase gene
JOURNAL EMBO J. 7 (3), 751-759 (1988)
MEDLINE 88283644
PUBMED 2456211
- REFERENCE 10 (bases 1 to 1590)
AUTHORS Wathelet,M.G., Szpirer,J., Nols,C.B., Clauss,I.M., De
Wit,L., Islam,M.Q., Levan,G., Horisberger,M.A., Content,J.,
Szpirer,C. and Huez,G.A.
TITLE Cloning and chromosomal location of human genes inducible
by type I interferon
JOURNAL Somat. Cell Mol. Genet. 14 (5), 415-426 (1988)
MEDLINE 89019578
PUBMED 3175763
- REFERENCE 11 (bases 1 to 1590)
AUTHORS Nechiporuk T, Nechiporuk A, Sahba S, Figueroa K, Shibata
H, Chen XN, Korenberg JR, de Jong P and Pulst SM.
TITLE A high-resolution PAC and BAC map of the SCA2 region
JOURNAL Genomics 44 (3), 321-329 (1997)
MEDLINE 97468145
PUBMED 9325053
- REFERENCE 12 (bases 1 to 1590)

Figure 1:Page 3

AUTHORS Renault B, Hovnanian A, Bryce S, Chang JJ, Lau S,
Sakuntabhai A,
Monk S, Carter S, Ross CJ, Pang J, Twells R, Chamberlain
S, Monaco

AP, Strachan T and Kucherlapati R.
TITLE A sequence-ready physical map of a region of 12q24.1
JOURNAL Genomics 45 (2), 271-278 (1997)
MEDLINE 98008914
PUBMED 9344649
REFERENCE 13 (bases 1 to 1590)
AUTHORS Hovnanian,A., Rebouillat,D., Mattei,M.G., Levy,E.R.,
Marie,I.,
Monaco,A.P. and Hovanessian,A.G.
TITLE The human 2',5'-oligoadenylate synthetase locus is
composed of
three distinct genes clustered on chromosome 12q24.2
encoding the
100-, 69-, and 40-kDa forms
JOURNAL Genomics 52 (3), 267-277 (1998)
MEDLINE 99009311
PUBMED 9790745
COMMENT REVIEWED REFSEQ: This record has been curated by NCBI
staff. The
reference sequence was derived from X02875.1.
Summary: This gene encodes an enzyme included in the 2',
5'
oligoadenylate synthase family. This enzyme is induced
by
interferons and catalyzes the 2', 5' oligomers of
adenosine in
order to bind and activate RNase L. This enzyme family
plays a
significant role in the inhibition of cellular protein
synthesis
and viral infection resistance. Alternative splicing of
this gene
produces two isoforms which share identical N-terminal
sequence but
diverge at exon 7.
Transcript Variant: Transcript variant E18 represents
the 1.8 kb
product that diverges from the predominant transcript
variant E16
in exon 7. This form contains an additional exon and is
very
hydrophilic as compared to transcript variant E16.
COMPLETENESS: complete on the 3' end.
FEATURES Location/Qualifiers
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/db_xref="taxon:9606"
/chromosome="12"
/map="12q24.1"
gene 1..1590
/gene="OAS1"
/note="IFI-4; OIAS"

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isoform E18"

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/db_xref="MIM:164350"
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/protein_id="NP_058132.1"
/db_xref="GI:8051621"

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polyA_signal 1571..1576
polyA_site 1585

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ccgcatgcaa
  121 atcgaccatg ccattgacat catctgtggg ttcttgaagg aaaggtgctt
ccgaggtagc
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  241 ctcagaggcc gatctgacgc tgacctggtt gtcttctca gtcctctcac
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ggaagcctgt
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gagaatgaaa
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 1561 taacaataaa aataaagcaa ataccaaaaa
//
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Figure 2: Schematic of the OAS1 gene showing intron/exon structure and protein structure

Genomic structure

